

WHAT IS CLAIMED IS:

1. A communication device connectable to and communicable with a remote communication device, comprising:
 - 5 JPEG data retrieving means for retrieving JPEG data including encoded data and a predefined quantization table that contains a first set of numeral values arranged in an n-by-m matrix form wherein n and m are integers equal to or greater than two, the JPEG data being generated by compressing original data;
 - 10 recompressing means for further compressing the JPEG data retrieved by the JPEG data retrieving means, the recompressing means comprising:
 - 15 decoding means for decoding the encoded data and producing decoded data that contains a second set of numeral values arranged in the n-by-m matrix form;
 - 20 table generating means for generating a modified quantization table through multiplication of each of the numeral values in the predefined quantization table by a predetermined number, the modified quantization table containing a third set of numeral values arranged in the n-by-m matrix form;
 - 25 intermediate data generating means for generating intermediate data through division of each of the numeral values in the decoded data by the predetermined number, the intermediate data containing a fourth set of

numeral values arranged in the n-by-m matrix form; and

encoding means for encoding the intermediate data and generating new encoded data, the new encoded data and the modified quantization table being defined as
5 recompressed JPEG data; and

data transmission means for transmitting to the remote communication device selective one of the JPEG data and recompressed JPEG data.

2. The communication device according to claim 1,
10 further comprising:

standard transmission time calculating means for calculating a standard transmission time required for transmission of the JPEG data to the remote communication device based on an amount of the JPEG data and a
15 predetermined transmission speed;

estimated transmission time calculating means for calculating an estimated transmission time required for transmission of the recompressed JPEG data to the remote communication device based on the predetermined number and
20 the standard transmission time; and

transmission time display control means for displaying the standard transmission time and the estimated transmission time as options for selection by an operator,

wherein the data transmission means transmits to the
25 remote communication device the JPEG data when the operator

selects the standard transmission time and the recompressed JPEG data when the operator selects the estimated transmission time.

3. The communication device according to claim 2,
5 further comprising transmission log data storing means for
storing transmission log data indicating actual transmission
time in past transmission to the remote communication device,
wherein the transmission time display control means displays
as a default setting either the standard transmission time
10 or the estimated transmission time whichever is closer to
the actual transmission time in the past transmission to the
same remote communication device.

4. The communication device according to claim 2,
further comprising transmission log data storing means for
15 storing transmission log data indicating an amount of data
transmitted in past to the remote communication device, the
amount of data being calculated based on an actual
transmission time and the predetermined transmission speed,
wherein the transmission time display control means displays
20 as a default setting either the standard transmission time
or the estimated transmission time selected in terms of an
amount of data transmitted during the standard transmission
time and the estimated transmission time whichever is closer
to the amount of data transmitted in the past transmission
25 to the same remote communication device.

5. The communication device according to claim 2,
wherein the transmission time display control means displays
the standard transmission time and the estimated
transmission time only when an amount of the JPEG data
5 exceeds a predetermined amount.

6. A color facsimile device connectable to and
communicable with a remote color facsimile device,
comprising:

JPEG data retrieving means for retrieving JPEG data
10 including encoded data and a predefined quantization table
that contains a first set of numeral values arranged in an
n-by-m matrix form wherein n and m are integers equal to or
greater than two, the JPEG data being generated by
compressing original data;

15 recompressing means for further compressing the JPEG
data retrieved by the JPEG data retrieving means, the
recompressing means comprising:

decoding means for decoding the encoded data
and producing decoded data that contains a second set of
20 numeral values arranged in the n-by-m matrix form;

table generating means for generating a
modified quantization table through multiplication of each
of the numeral values in the predefined quantization table
by a predetermined number, the modified quantization table
25 containing a third set of numeral values arranged in the n-

by-m matrix form;

intermediate data generating means for generating intermediate data through division of each of the numeral values in the decoded data by the predetermined number, the intermediate data containing a fourth set of numeral values arranged in the n-by-m matrix form; and

encoding means for encoding the intermediate data and generating new encoded data, the new encoded data and the modified quantization table being defined as recompressed JPEG data; and

data transmission means for transmitting to the remote color facsimile device selective one of the JPEG data and recompressed JPEG data.

7. The color facsimile device according to claim 6,
15 further comprising:

standard transmission time calculating means for calculating a standard transmission time required for transmission of the JPEG data to the remote color facsimile device based on an amount of the JPEG data and a predetermined transmission speed;

estimated transmission time calculating means for calculating an estimated transmission time required for transmission of the recompressed JPEG data to the remote color facsimile device based on the predetermined number and
25 the standard transmission time; and

transmission time display control means for displaying the standard transmission time and the estimated transmission time as options for selection by an operator,

wherein the data transmission means transmits to the
5 remote color facsimile device the JPEG data when the operator selects the standard transmission time and the recompressed JPEG data when the operator selects the estimated transmission time.

8. The color facsimile according to claim 7, further
10 comprising transmission log data storing means for storing transmission log data indicating actual transmission time in past transmission to the remote color facsimile device, wherein the transmission time display control means displays as a default setting either the standard transmission time
15 or the estimated transmission time whichever is closer to the actual transmission time in the past transmission to the same remote color facsimile device.

9. The color facsimile device according to claim 7,
further comprising transmission log data storing means for
20 storing transmission log data indicating an amount of data transmitted in past to the remote color facsimile device, the amount of data being calculated based on an actual transmission time and the predetermined transmission speed, wherein the transmission time display control means displays as a default setting either the standard transmission time
25

or the estimated transmission time selected in terms of an amount of data transmitted during the standard transmission time and the estimated transmission time whichever is closer to the amount of data transmitted in the past transmission 5 to the same remote color facsimile device.

10. The color facsimile device according to claim 7, wherein the transmission time display control means displays the standard transmission time and the estimated transmission time only when an amount of the JPEG data exceeds a predetermined amount. 10

11. The color facsimile device according to claim 7, wherein the JPEG data retrieving means comprises a card reader for reading the JPEG data stored in a memory card.

12. A method of communicating with a remote 15 communication device, comprising the steps of:

retrieving JPEG data including encoded data and a predefined quantization table that contains a first set of numeral values arranged in an n-by-m matrix form wherein n and m are integers equal to or greater than two, the JPEG 20 data being generated by compressing original data;

further compressing the JPEG data by decoding the encoded data and producing decoded data that contains a second set of numeral values arranged in the n-by-m matrix form, generating a modified quantization table through 25 multiplication of each of the numeral values in the

predefined quantization table by a predetermined number, the modified quantization table containing a third set of numeral values arranged in the n-by-m matrix form, generating intermediate data through division of each of the 5 numeral values in the decoded data by the predetermined number, the intermediate data containing a fourth set of numeral values arranged in the n-by-m matrix form, and encoding the intermediate data and generating new encoded data, the new encoded data and the modified quantization 10 table being defined as recompressed JPEG data; and transmitting to the remote communication device selective one of the JPEG data and recompressed JPEG data.

13. The method according to claim 12, further comprising the steps of:

15 calculating a standard transmission time required for transmission of the JPEG data to the remote communication device based on an amount of the JPEG data and a predetermined transmission speed;

20 calculating an estimated transmission time required for transmission of the recompressed JPEG data to the remote communication device based on the predetermined number and the standard transmission time; and

25 displaying the standard transmission time and the estimated transmission time as options for selection by an operator,

wherein the JPEG data is transmitted to the remote communication device when the operator selects the standard transmission time and the recompressed JPEG data is transmitted to the remote communication device when the operator selects the estimated transmission time.

14. The method according to claim 13, further comprising the steps of storing transmission log data indicating actual transmission time in past transmission to the remote communication device, wherein either the standard transmission time or the estimated transmission time is displayed as a default setting whichever is closer to the actual transmission time in the past transmission to the same remote communication device.

15. The method according to claim 13, further comprising the steps of storing transmission log data indicating an amount of data transmitted in past to the remote communication device, the amount of data being calculated based on an actual transmission time and the predetermined transmission speed, wherein either the standard transmission time or the estimated transmission time is selected as a default setting in terms of an amount of data transmitted during the standard transmission time and the estimated transmission time whichever is closer to the amount of data transmitted in the past transmission to the same remote communication device.

17. The method according to claim 13, wherein the standard transmission time and the estimated transmission time are displayed only when an amount of the JPEG data exceeds a predetermined amount.